

Compatibility Determination

Station Name: Chincoteague NWR

Date Established: May 13, 1943

Establishing Authority:

Migratory Bird Conservation Act

Purpose(s) for which Established:

For use as an inviolate sanctuary, or for any other management purpose for migratory birds.

Description of Proposed Use: Outdoor Recreation (other): Hiking

Public use activities, including hiking, are covered in the 1992 Final Environmental Impact Statement for the Chincoteague National Wildlife Refuge Master Plan (FEIS) and the 1993 Chincoteague National Wildlife Refuge Master Plan. Additional information can also be found in the station's 1993 Public Use Plan. These documents are appended.

After the establishment of the refuge in 1943, the only public recreation that occurred on Chincoteague before the bridge was constructed in 1962 was beach use, primarily surf fishing. Visitors would drive down the beach from the Maryland end of Assateague Island. On June 17, 1957, Congress passed Public Law 85-57, Chincoteague National Wildlife Refuge, Virginia - Bridge and Road. This law authorized the Secretary of the Interior to permit the construction of a bridge and road across Chincoteague National Wildlife Refuge. The objective of this law was "to permit the controlled development of a portion of the seashore of the Chincoteague National Wildlife Refuge, Virginia for recreational purposes, ..." This law also authorized the Secretary to enter into agreements for the construction, maintenance, and operation "of a public beach, concession, parking areas, and other related public conveniences,..." The FWS, on April 1, 1959, entered into an agreement with the Chincoteague-Assateague Bridge and Beach Authority whereby certain refuge lands constituting what is known as Toms Cove Hook were assigned to the Authority for the purpose of developing a public beach and recreational facility. The deed of easement also provided for the construction of a bridge and access road to the Toms Cove Hook.

After the construction of the bridge in 1962, visitation steadily rose and by 1968 over 500,000 visits were recorded. During the next decade refuge visits increased by an average of 12% annually. In 1987 visitation peaked at over 1.5 million visits, with over 800,000 occurring during the summer season, June through August. In 1993 the refuge received 1,415,830 visits.

The Wildlife Trail which was located approximately where the Marsh Trail is today was opened for public use in the early 60's. A 30 car parking lot for trail users was completed in 1968. Also, the Lighthouse Trail was opened in 1968. In 1971, the Pony Trail (now called the Woodland Trail) was opened and the Wildlife Drive (now called the Wildlife Loop) was paved. Swan Cove Trail which connects the Wildlife Loop with the recreational beach area was opened in 1985. The Marsh, Lighthouse and Woodland trails and the Wildlife Loop have trail guides and/or interpretive exhibits. There are two observation platforms on the Wildlife Loop and one on the Woodland Trail.

The Assateague Island National Seashore issues permits to visitors interested in hiking from the refuge to a primitive camping site just north of the Maryland and Virginia line. The campsite was established in 1970 and a small number of visitors hike to the site from the refuge. Most hikers walk along the beach to the campsite, but a few people park at the Chincoteague Refuge Visitor Center and walk the Service Road before crossing over to the beach. In 1993 only 93 permits were issued and 74 of those were in April and May.

Anticipated Impacts on Refuge Purposes(s):

Hiking, although very limited, has the potential to have minor impacts on shorebird, waterfowl, and other migratory bird populations feeding and resting near the areas where people hike. Human disturbance to migratory birds has been documented in many studies in different locations. Conflicts arise when migratory birds and humans are present in the same areas (Boyle and Samson 1985). Response of wildlife to human activities includes: departure from site (Owen 1973, Burger 1981, Kaiser and Fritzell 1984, Korschgen et al 1985, Henson and Grant 1991, Kahl 1991, Klein 1993), use of sub-optimal habitat (Erwin 1980, Williams and Forbes 1980), altered behavior (Burger 1981, Korschgen et al. 1985, Morton et al. 1989, Ward and Stehn 1989, Havera et al. 1992, Klein 1993), and increase in energy expenditure (Morton et al. 1989, Belanger and Bedard 1990). McNeal et al. (1992) found that many waterfowl species avoid disturbance by feeding at night instead of during the day. Studying the effects of human visitation on waterbirds at J.N. "Ding" Darling NWR, Klein (1989) found resident waterbirds to be less sensitive to disturbance than migrants; she also found that sensitivity varied according to species and individuals within species. Ardeids were quite tolerant of people but were disturbed as they took terrestrial prey; great blue herons, tricolored herons, great egrets, and little blue herons were observed to be disturbed to the point of flight more than other birds. These birds are also found on Chincoteague Refuge, and Kushlan (1987) found that the need of these birds to move frequently while feeding may disrupt interspecific and intraspecific relationships. In addition, Batten (1977) and Burger (1981) found that wading birds were extremely sensitive to disturbance in the northeastern U.S. Klein (1993) in a studying waterbird response to human disturbance found that as intensity of disturbance increased, avoidance response by the birds increased and found that out-of-vehicle activity to be more disruptive than vehicular traffic; Freddy et al. (1986) and Vaske (1983) also found the latter to be true. In regards to waterfowl, Klein (1989) found migratory dabbling

ducks to be the most sensitive to disturbance and migrant ducks to be more sensitive when they first arrived, in the late fall, than later in winter. She also found that gulls and sandpipers to be apparently insensitive to human disturbance, with Burger (1981) finding the same to be true for various gull species.

Numerous studies have documented that migratory birds are disturbed by human activity on beaches. Erwin (1989) documented disturbance of common terns and skimmers and recommended that human activity be restricted a distance of 100 meters around nesting sites. Klein (1993) in studying waterbird response to human disturbance found that as intensity of disturbance increased, avoidance response by the birds increased and found that out of vehicle activity to be more disruptive than vehicular traffic. Pfister et al. (1992) found that the impact of disturbance was greater on species using the heavily disturbed front side of the beach, with the abundance of the impacted species being reduced by as much as 50 percent. Roberson et al. (1980) discovered, in studying the effects of recreational use of shorelines on nesting birds, that disturbance negatively impacted species composition. Piping plovers which use the refuge heavily are also impacted negatively by human activity. Pedestrians on beaches may crush eggs (Burger 1987, Hill 1988, Shaffer and Laporte 1992, Cape Code National Seashore 1993, Collazo et al. 1994). Dogs may chase plovers (McConnaughey et al. 1990), destroy nests (Hoopes et al. 1992), and kill chicks (Cairns and McLaren 1980). Other studies have shown that if pedestrians cause incubating plovers to leave their nest, the eggs can overheat (Bergstrom 1991) or the eggs can cool to the point of embryo death (Welty 1982). Pedestrians have been found to displace unfledged chicks (Strauss 1990, Burger 1991, Hoopes et al. 1992, Loegering 1992, Goldin 1993).

The proposed use has the potential of intermittently interrupting the feeding habits of a variety of shorebirds, gulls and terns, and to a lesser extent disturbing waterfowl and other migratory birds using some of the refuge's impoundments. With most of this use occurring in April and May, shorebirds are the most likely group of migratory birds to be impacted. Since this use normally consists of small groups, two to four people, hiking on the beach at a time, disturbance is expected to be minimal and of a short duration.

Determination: (Check One)

This use is compatible X This use is not compatible

The following stipulations will ensure compatibility:

Klein (1989) identified several management strategies used to control the negative effects of recreation on wildlife; these included: user fees, travel ease, permits, zoning (Cullen, 1985), public education (Purdy 1987), limiting number of visitors present, and periodic closing. Chincoteague Refuge employs some of these measures in lessening the disturbance to wildlife.

Hiking will be restricted to the beach and Service Road and to those holding valid permits issued by the National Park Service.

This activity will be limited to the hours the refuge is open to public use, allowing for undisturbed use of the area by migratory birds during the evening and early morning hours.

If requests for hiking the Service Road and beach increase to the extent that wildlife disturbance becomes a problem, regulations restricting the number of hikers will be implemented.

Justification:

Since 1970 when the hike-in camping area was established, the number of people hiking from the refuge to that area has been insignificant, and any disturbance is short lived as the hikers, usually small groups of two to four people, move through the area. The limited use allows for periods of uninterrupted feeding by shorebirds, gulls and terns present in the area.

Project Leader John D. Schroer, Refuge Manager July 12, 1994
(Name/Title/Signature/Date)

Review and Concurrence
(Name/Title/Signature/Date)

(Name/Title/Signature/Date)

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